

Biographical Summary

Dominique Joyner received her B.S. in Environmental Biology from California State University Northridge. Her M.S. degree is from the University of California Berkeley in Plant and Microbial Biology. Her research interest has included the bioremediation of heavy metal and radionuclide contaminants in soils and groundwater as well as the investigation of stress response in aerobic and anaerobic organisms. Dominique is currently in the microbiology laboratory of Terry Hazen in the Ecology Department of the Earth Sciences Division.

Roles and Responsibilities

Lab Manager for the Hazen Lab

Lab Manager for the Center for Biotechnology user facility

Education

1999 - University of California Berkeley

M.S. Plant & Microbial Biology

1995 - California State University Northridge

B.S. Environmental Biology

minor: Chemistry

Professional Societies

American Society for Microbiology

Personal

Interests include bikram yoga, swimming, jogging. Hobbies : throwing on the potters wheel, gardening, beading and making potions... I am planning a start-up business specializing in all natural handmade moisturizing creams and lotions prepared with essential oils and floral teas-- feel free to contact me for more information!

Training

CPR and First Aid

Laser Safety

Fire Extinguisher

Radiation Safety

Hazardous Chemical Safety

Biohazardous Material Safety

Conflict Resolution/Negotiation training

Awards

Spot Recognition Award 8/2009

Publications

Mukhopadhyay, A., J. Ray, D. C. Joyner, M. Ouellet, G. Zane, E. G. Luning, J. S. Jacobsen, T. C. Hazen, J. D. Wall, and J. D. Keasling. (In preparation 2009) Identification of a two-component system regulating the high affinity potassium uptake Kdp complex in *Desulfovibrio vulgaris* Hildenborough.

Tang, Y. J., R. Sapra, D. C. Joyner, T. C. Hazen, S. Myers, D. Reichmuth, H. Blanch, and J. D. Keasling. 2009. Analysis of Metabolic Pathways and Fluxes in a Newly Discovered Thermophilic and Ethanol-Tolerant Geobacillus Strain. *Biotechnology and Bioengineering* 102:1377-1386. LBNL-1442E. (2.936,0)

Borglin, S. E., J. Jacobsen, D. Joyner A. Mukhopadhyay, and T. C. Hazen. 2009. Overcoming the anaerobic hurdle in phenotypic microarrays: Growth and visualization of *Desulfovibrio vulgaris* Hildenborough. *J. Microbiological Methods* 76:159–168. LBNL-1822E. (2.000, 0)

Faybishenko, B., T. C. Hazen, P. E. Long, E. L. Brodie, M. E. Conrad, S. S. Hubbard, D. Joyner, S. Borglin, R. Chakraborty, K. H. Williams, J. E. Peterson, J. Chen, T. K. Tokunaga, J. Wan, M. Firestone, D. R. Newcomer, C. T. Resch, K. J. Cantrell, A. Willett, and S. Koenigsberg. 2008. In Situ Long-Term Bioimmobilization of Cr(VI) in Groundwater Using ¹³C-Labeled Slow-Release Lactate. *Environ. Sci. & Technol.* 42:8478-8485. LBNL-1799E. (4.458, 0)

Jacobsen, J. S., D. C. Joyner, S. E. Borglin, T. C. Hazen, A. P. Arkin, E. W. Bethel. IV07_IVBi: International Symposium Information Visualization in Biomedical Informatics. Visualization of Growth Curve Data from Phenotype Microarray Experiments.

Mukhopadhyay, A., A. M. Redding, M. P. Joachimiak, A.P. Arkin, S. E. Borglin, P. S. Dehal, R. Chakraborty, J. T. Geller, T. C. Hazen, Q. He, D. C. Joyner, V. J. J. Martin, J. D. Wall, Z. K. Yang, J. Zhou, J. D. Keasling. *J. Bacteriology* 2007 : JB.00368-07v1. Cell wide responses to low oxygen exposure in *Desulfovibrio vulgaris* Hildenborough.

Stolyar S., Q. He, Z. Yang, S.E.Borglin, D. Joyner, E. Alm, T. C. Hazen, J. Zhou, J. D. Wall, A. P. Arkin, D. A. Stahl. *J. Bacteriology* (Submitted 2007) Response of *Desulfovibrio vulgaris* to alkaline stress.

Brodie, E. L., T. Z. DeSantis, D. C. Joyner, S. M. Baek, J. T. Larsen, G. L. Andersen, T. C. Hazen, P. M. Richardson, D. J. Herman, T. K. Tokunaga, J. M. Wan, and M. K. Firestone. *Appl. Environ. Microbiol.* 2006 72: 6288-6298.l. Application of a High-Density Oligonucleotide Microarray Approach To Study Bacterial Population Dynamics during Uranium Reduction and Reoxidation. LBNL-59761.

Redding, A. M., A. Mukhopadhyay, D. Joyner, T. C. Hazen, and J. D. Keasling. 2006. Study of Nitrate Stress in *Desulfovibrio vulgaris* Hildenborough Using iTRAQ Proteomics. *Briefings in Functional Genomics and Proteomics* 5: 133-143. LBNL-59867.

Mukhopadhyay, A., Z. He, E. J. Alm, A. P. Arkin, E. E. Baidoo, S. C. Borglin, W. Chen, T. C. Hazen, Q. He, H.-Y. Holman, K. Huang, R. Huang, D. C. Joyner, N. Katz, M. Keller, P. Oeller, A. Redding, J. Sun, Z. Yang, J. D. Wall, J. Wei, H.-C. Yen, J. Zhou, and J. D. Keasling. 2006. Salt stress in *Desulfovibrio vulgaris* Hildenborough: An integrated genomics approach. *J. Bacteriol.* 188:4068-4078. LBNL-59862.

Joyner, D. C. and Lindow, S. E. Heterogeneity of Iron Bioavailability on Plants. Assessed with a Whole-Cell GFP-Based Bacterial Biosensor. *Microbiology*. 2000 Oct;146 (Pt10):2435-45.

Posters/Abstracts

Elias*, D. A., M. Auer, M. D. Biggin, G. Butland, S. Chhabra, A. Fagorala, T. C. Hazen, D. Jorgens, D. C. Joyner, T. R. Juba, M. Perez, J. P. Remis, A. Tauscher, and J. D. Wall. Protein Complex Analysis Project (PCAP): Localization of Multi-Protein Complexes through SNAP-Tag Labeling. May 2009, Philadelphia, PA. Annual meeting of the American Society for Microbiology Meeting.

Kozina*, C. L., A. S. Pawate, D. Joyner, K. L. Sale, D. S. Reichmuth, T. C. Hazen, and R. Sapra. Metabolic engineering of a novel thermophilic ethanologen *Geobacillus thermoglucosidasius* M10EXG for enhanced ethanol production. May 2009, San Francisco, CA. 31st Symposium on Biotechnology for Fuels and Chemicals, Society for Industrial Microbiology.

Hazen*, T. C., B. Faybushenko, H. Beller, E. Brodie, S. S. Hubbard, J. Peterson, E. Sonnenthal, C. Steefel, L. Yang, J. Larsen, M. Conrad, J. Christensen, S. Brown, D. Joyner, S. Borglin, J. Geller, R. Chakraborty, P. Nico, T. Tokunaga, J. Wan, M. Firestone, P. Long, D. Newcomer, and L. N'Guessan. Field-Scale Investigations of Cryptic Growth and Memory Response Hypotheses at the Chromium Contaminated Hanford 100-H Site. April 2009, Lansdowne, VA. 4th Annual DOE-ERSP PI Meeting.

He*, Q., Z. He, D. C. Joyner, M. Joachimiak, M. N. Price, Z. K. Yang, H.-C. B. Yen, C. L. Hemme, R Chakraborty, W. Chen, M. M. Fields, D. A. Stahl, J. D. Keasling, M. Keller, A. P. Arkin, T. C. Hazen, J. D. Wall, and J. Zhou. Impact of Elevated Nitrate on Sulfate-Reducing Bacteria: Implications of inhibitory mechanisms in addition to osmotic stress. February 2009, Bethesda, MD. Genomics:GTL Contractor-Grantee Workshop VII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2009.

Auer, M., M. D. Biggin, G. Butland, S. Chhabra, D. A. Elias*, A. Fagorala, T. C. Hazen, D. Jorgens, D. C. Joyner, T. R. Juba, M. Perez, J. P. Remis, A. Tauscher, and J. D. Wall. Protein Complex Analysis Project (PCAP): Localization of Multi-Protein Complexes through SNAP-Tag Labeling. February 2009, Bethesda, MD. Genomics:GTL Contractor-Grantee Workshop VII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2009.

Hazen*, T. C., G. Anderson, S. Borglin, E. Brodie, S. van Dien, M. Fields, J. Fortney, J. Geller, E. Hendrickson, K. L Hillesland, H.-Y. Holman, J. Leigh, T. Lie, J. Jacobsen, D. Joyner, R Chakraborty, M. Keller, A. Mukhopadhyay, C. Schadt, D. Stahl, S. Stolyar, C. Walker, J. Wall, Z. Yang, H.-C. B. Yen, G. Zane, and J. Zhou. Applied Environmental Microbiology Core Research on Stress Response Pathways in Metal-Reducers VIMSS:ESPP. February 2009, Bethesda, MD. Genomics:GTL Contractor-Grantee Workshop VII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2009.

Hazen*, T. C., H.-Y. Holman, J. Keasling, A. Mukhopadhyay, S. Chhabra, J. T. Geller, M. Singer, D. Joyner, L. Camp, T. Torok, J. Wall, D. Elias, and M. D. Biggin. Protein Complex Analysis Project (PCAP): High Throughput Identification and Structural Characterization of Multi-Protein Complexes during Stress Response in *Desulfovibrio vulgaris*: Microbiology Subproject. February 2009, Bethesda, MD. Genomics:GTL Contractor-Grantee Workshop VII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2009.

Miller*, L. D., A. Venkateswaran, J. Mosher, M. Drake, Z.K. Yang, M. Rodriguez, S.D. Brown, T. J. Phelps, M. Podar, A. V. Palumbo, C. W. Schadt, M. Keller, D. C. Joyner, T. C. Hazen, S. Stolyar, K. Hillesland, and D.A. Stahl. Development and Analysis of Multispecies Consortia to Study Microbial Community Stress and Survival. February 2009, Bethesda, MD.

Genomics:GTL Contractor-Grantee Workshop VII, USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2009.

Joyner*, D. C., C. B. Walker, R. Chakraborty, J. L. Fortney, J. T. Geller, L. E. Camp, A. Zhou, Z. He, M. P. Joachimiak, S. Stolyar, J. Zhou, D. A. Stahl, A. P. Arkin, and T. C. Hazen. Characterization of Stress Response in a Sulfate Reducer/Methanogen Coculture. June 2008, Boston, MA. Annual Meeting American Society for Microbiology.

Chakraborty, R., N. Ramos-Hernandez, D. C. Joyner, E. X. Perez, Y. Katsuura, A. Massol-Deya*, and T. C. Hazen. Characterization of marine sulfate-reducing bacteria resistant to RDX and other explosives. June 2008, Boston, MA. Annual Meeting American Society for Microbiology.

Hazen*, T. C., S. E. Borglin, D. C. Joyner, and J. Jacobsen. Anaerobic Phenotypic Microarray. March 2008, Florence, Italy. Phenotypic Microarray Conference.

Joyner*, D., J. Jacobsen, A. Mukhopadhyay, and T. C. Hazen. Assessment of Nitrogen utilization in *Desulfovibrio vulgaris* using phenotype microarray. March 2008, Florence, Italy. Phenotypic Microarray Conference

Camp, L., S. Chhabra, D. Elias, J. T. Geller, H.-Y. Holman, D. C. Joyner, J. D. Keasling, A. Mukhopadhyay, M. Singer, T. Torok, J. D. Wall, T. C. Hazen, S. Allen, G. Butland, M. Choi, M. Dong, S. C. Hall, B. K. Jap, J. Jin, S. J. Fisher , H. Liu, E. Szakal, P. J. Walian, H. E. Witkowska, L. Yang, M. D. Biggin*, P. Arbelaez, M. Auer, D. Ball, F. Garczarek, R. M. Glaeser, D. Jorgens, J. Malik, E. Nogales , H. Palsdottir, J. P. Remis, D. Typke, K. H. Downing, S. S. Andrews, A. P. Arkin, S. E. Brenner, Y. W. Huang, K. Keller, R. Santos, M. Shatsky, and J.-M. Chandonia. Invited. Protein Complex Analysis Project (PCAP): Project overview. February 2008, North Bethesda, MD. Genomics: GTL Awardee Workshop VI.

Hazen*, T. C., H.-Y. Holman, J. D. Keasling, A. Mukhopadhyay, S. Chhabra, J. T. Geller, M. Singer, D. C. Joyner, L. Camp, T. Torok, J. D. Wall, D. Elias, and M. D. Biggin. Protein Complex Analysis Project (PCAP): High Throughput Identification and Structural Characterization of Multi-Protein Complexes during Stress Response in *Desulfovibrio vulgaris*: Microbiology Subproject. February 2008, North Bethesda, MD. Genomics: GTL Awardee Workshop VI.

Mukhopadhyay, A., D. Joyner, E. Luning, K. Keller, J. Robertson, G. Zane, J. Jacobsen, M. Price, S. Chhabra, T. C. Hazen, A. P. Arkin, J. Wall, and J. Keasling. VIMSS ESPP: Deciphering the roles of two-component systems in *Desulfovibrio vulgaris* Hildenborough. February 2008, North Bethesda, MD. Genomics: GTL Awardee Workshop VI.

Hazen, T. C., C. Abulencia, G. Anderson, S. Borglin, E. Brodie, S. v. Dien, M. Fields, J. Fortney, J. Geller, E. Hendrickson, H.-Y. Holman, J. Leigh, T. Lie, R. Phan, J. Jacobsen, D. Joyner, R. Chakraborty, M. Keller, A. Mukhopadhyay, C. Schadt, D. Stahl, S. Stolyar, C. Walker, J. D. Wall, E. Wozei, Z. Yang, H.-c. Yen, G. Zane, and J. Zhou. Applied Environmental Microbiology Core Research on Stress Response Pathways in Metal-Reducers VIMSS:ESPP. February 2008, North Bethesda, MD. Genomics: GTL Awardee Workshop VI.

Arkin, A. P., T. C. Hazen, C. Abulencia, E. J. Alm, G. Anderson, M. Auer, E. Baidoo, K. S. Bender, P. Benke, S. Borglin, E. Brodie, S. Brown, L. Camp, R. Chakraborty, S. Chhabra, G.

Chirica, D. Chivian, M. Cipriano, P. S. Dehal, T. DeSantis, E. Drury, I. Dubchak, D. Elias, M. W. Fields, V. O. Y. Fok, J. Fortney, S. Gaucher, J. Geller, M. Hadi, Z. He, C. Hemme, K. Hillesland, H.-Y. Holman, K. H. Huang, Y. W. Huang, C. Hwang, J. Jacobsen, M. P. Joachimiak, D. Joyner, J. Keasling, K. Keller, M. Keller, Y. Light, E. Luning, R. Meagher, A. Mukhopadhyay, A. Palumbo, R. Phan, T. Phelps, F. Pingitore, M. Podar, M. N. Price, A. Redding, J. Robertson, R. Sapra, C. Schadt, M. Shirley, A. Shutkin, M. Singer, A. Singh, D. A. Stahl, S. Stolyar, A. Sundararajan, Y. Tang, J. V. Nostrand, S. Villa, C. Walker, J. D. Wall, Z. K. Yang, H.-c. Yen, G. Zane, A. Zhou, and J. Zhou. The Virtual Institute of Microbial Stress and Survival - VIMSS:ESPP Overview. February 2008, North Bethesda, MD. Genomics: GTL Awardee Workshop VI.

He, Q., Z. He, W. Chen, Z. Yang, E. J. Alm, K. H. Huang, H-C. Yen, D. C. Joyner, M. Keller, A. P. Arkin, T. C. Hazen, J. D. Wall, and J. Zhou. Understanding the Suppression of Sulfate Reducing Bacteria by Nitrate: A Functional Genomics Approach. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology.

Gaucher*, S. P., G. S. Chirica, R. Sapra, A. M. Redding, A. Mukhopadhyay, G. M. Buffleben, C. Kozina, R. Phan, D. C. Joyner, J. D. Keasling, T. C. Hazen, A. P. Arkin, and A. K. Singh. A Survey of Protein Post-Translational Modifications Found in the Sulfate-Reducing Bacterium *Desulfovibrio vulgaris* Hildenborough: Search for Stress Response Mediators. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62234.

Joyner*, D., J. Jacobsen, A. Mukhopadhyay, and T. C. Hazen. Assessment of Nitrogen utilization in *Desulfovibrio vulgaris* using phenotype microarray. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62409.

Brodie*, E. L., T. C. Hazen, B. Faybushenko, D. Joyner, S. E. Borglin, R. Chakraborty, M. Conrad, J. Zhou, J. Van Nostrand, P. E. Long, D. R. Newcomer, and G. L. Andersen. Phylogenetic and Functional Gene Microarray Analysis Demonstrates Direct and Indirect Mechanisms for Sustained Chromium Bioimmobilization. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62428.

Mukhopadhyay*, A., A. M. Redding, A. P. Arkin, S. Borglin, P. Dehal, R. Chakraborty, J. T. Geller, B. Giles, T. C. Hazen, Q. He, M. Joachimiak, D. C. Joyner, J. D. Wall, Z. Yang, J. Zhou, and J. D. Keasling. Comparison of *Desulfovibrio vulgaris* Hildenborough response to microaerobic and aerobic exposure. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62423.

Ramos-Hernandez*, N., R. Chakraborty, D. C. Joyner, E. X. Perez, A. Massol-Dêya, and T. C. Hazen. Chemotactic and Growth Responses to Explosives of *Desulfovibrio vulgaris* H. and Sulfate-Reducing Bacteria Isolated from Tropical Marine Sediments. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62424.

Walian*, P. J., M. Dong, S. Fisher, J. T. Geller, S. Hall, T. C. Hazen, D. C. Joyner, M. E. Singer, H. E. Witkowska, M. D. Biggin, B. K. Jap. Isolation and Identification of Membrane Protein Complexes in *Desulfovibrio vulgaris* Hildenborough. May 2007, Toronto, Canada. Annual Meeting American Society for Microbiology. LBNL 62452.

Hazen*, T. C., B. Faybushenko, E. Brodie, D. Joyner, S. Borglin, J. Hanlon, M. Conrad, T. Tokunaga, J. Wan1, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T.

DeSantis, R. Chakraborty, P. E. Long, D. R. Newcomer, C. T. Resch, K. Cantrell, A. Willett, and S. Koenigsberg. Field-Integrated Studies of Long-Term Sustainability of Chromium Bioreduction at Hanford 100H Site. April 2007, Lansdowne, VA. DOE Environmental Remediation Sciences Program Annual Review.

Elias, D., S. Chhabra1, J. T. Geller, H.-Y. N. Holman, D. Joyner, J. Keasling, A. Mukhopadhyay, M. Singer, T. Torok, J. Wall, T. C. Hazen, G. Butland, M. Dong, S. C. Hall, B. K. Jap, J. Jin, S. J. Fisher, P. J. Walian, H. E. Witkowska, L. Yang, M. D. Biggin*, M. Auer, A. Avila-Sakar, F. Garczarek, R. M. Glaeser, J. Malik, E. Nogales, H. Palsdottir, J. P. Remis, D. Typke, K. H. Downing, S. S. Andrews, A. P. Arkin, S. E. Brenner, Y. W. Huang, J. Jacobsen, K. Keller, R. Santos, M. Shatsky, and J.-M. Chandonia. Protein Complex Analysis Project (PCAP): Project Overview. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62471.

Hazen*, T. C., H.-Y. N. Holman, J. Keasling, A. Mukhopadhyay, S. Chhabra, J. T. Geller, M. Singer, D. Joyner, T. Torok, J. Wall, D. Elias, and M. D. Biggin. Invited. Protein Complex Analysis Project (PCAP): High Throughput Identification and Structural Characterization of Multi-Protein Complexes during Stress Response in *Desulfovibrio vulgaris*: Microbiology Subproject. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62472.

Abulencia, C., E. J. Alm, G. Anderson, E. Baidoo, P. Benke, S. Borglin, E. L. Brodie, R. Chakraborty, S. Chhabra, G. Chirica, D. Chivian, M. J. Cipriano, M. E. Clark, P. S. Dehal, E. C. Drury, I. Dubchak, D. A. Elias, M. W. Fields, J. Gabster, S. P. Gaucher, J. Geller, B. Giles, M. Hadi, T. C. Hazen, Q. He, Z. He, C. L. Hemme, E. Hendrickson, K. L. Hillesland, H.-Y. Holman, K. H. Huang, Y. W. Huang, C. Hwang, J. Jacobsen, M. P. Joachimiak, D. C. Joyner, J. D. Keasling, K. Keller, M. Keller, J. Leigh, T. Lie, A. Mukhopadhyay, R. Phan, F. Pingitore, M. Price, A. M. Redding, J. Joseph A. Ringbauer, R. Sapra, C. W. Schadt, A. Shutkin, A. K. Singh, D. A. Stahl, S. M. Stolyar, Y. Tang, J. D. Van Nostrand, C. B. Walker, J. D. Wall, E. Wozei, Z. K. Yang, H.-C. Yen, G. Zane, A. Zhou, J. Zhou, and A. P. Arkin. The Virtual Institute of Microbial Stress and Survival: An overview of the Environmental Stress Pathway Project. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62215.

Gaucher, S. P., A. M. Redding, G. S. Chirica, R. S. G. M. Buffleben, C. Kozina, A. Mukhopadhyay, D. C. Joyner, J. D. Keasling, T. C. Hazen, A. P. Arkin, D. A. Stahl, J. D. Wall, and A. K. Singh. A Survey of Protein Post-Translational Modifications Found in the Sulfate-Reducing Bacterium *Desulfovibrio vulgaris* Hildenborough. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62475.

Hazen, T. C., C. Abulencia, G. Anderson, S. Borglin, E. Brodie, S. v. Dien, M. Fields, J. Geller, H.-Y. Holman, R. Phan, E. Wozei, J. Jacobsen, D. Joyner, R. Chakraborty, M. Keller, A. Mukhopadhyay, D. Stahl, S. Stolyar, J. Wall, H.-C. Yen, G. Zane, J. Zhou, E. Hendrickson, T. Lie, J. Leigh, and C. Walker. VIMSS Applied Environmental Microbiology Core Research on Stress Response Pathways in Metal-Reducers. February 2007, North Bethesda, MD. Joint

Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62232.

He, Q., Z. He, W. Chen, Z. Yang, E. J. Alm, K. H. Huang, H.-C. Yen, D. C. Joyner, M. Keller, A. P. Arkin, T. C. Hazen, J. D. Wall, and J. Zhou. Nitrate stress response in *Desulfovibrio vulgaris* Hildenborough: Whole-Genome Transcriptomics and proteomics analyses. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62236.

Sapra, R., S. Gaucher, G. Chirica, C. Kozina, G. Buffleben, R. Phan, D. Joyner, T. C. Hazen, A. P. Arkin, and A. K. Singh. Redox Proteomics In *Desulfovibrio vulgaris* Hildenborough: Search for Proteins That Mediate Stress Response via Post-Translational Modification of the Cys Residues. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62235.

Walker, C. B., D. Joyner, D. Chivian, S. S. Stolyar, K. Hillesland, J. Gabster, P. Dehal, M. Price, T. C. Hazen, A. P. Arkin, P. M. Richardson, D. Bruce, and D. A. Stahl. Genomic Comparisons between a Metal-resistant Strain of *Desulfovibrio vulgaris* and the Type Strain *D. vulgaris* Hildenborough. February 2007, North Bethesda, MD. Joint Genomics: GTL Awardee Workshop V and Metabolic Engineering 2007 and USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Workshop 2007. LBNL 62207.

Hazen*, T. C., B. Faybisenko, E. Brodie, D. Joyner, S. Borglin, R. Chakraborty, M. Conrad, T. K. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, A. Willett, and S. Koenigsberg. Long-Term Chromium Bio-Immobilization at the Hanford 100H Site: Geochemical and Microbiological Response to Slow Release Electron Donor. October 2006, Oak Ridge, TN. DOE ERSP annual field workshop. LBNL 60236.

Ramos-Hernandez*, N., R. Chakraborty, D. C. Joyner, E. X. Perez, A. Massol-Dêya, and T. C. Hazen. Chemotactic and Growth Responses to Explosives of *Desulfovibrio vulgaris* H. and Sulfate-Reducing Bacteria Isolated from Tropical Marine Sediments. September 2006, Mayaguez, Puerto Rico. 3rd Latin American and Caribbean Biotechnology Conference. LBNL 62424.

Chakraborty*, R., D. C. Joyner, E. Wozei, H.-Y. Holman, and T. C. Hazen. *Desulfovibrio* strain PCS, a metal reducing pleomorphic sulfate reducing bacterium. August 2006, Vienna, Austria. 11th International Symposium on Microbial Ecology. LBNL 62498.

Brodie*, E. L., T. C. Hazen, B. Faybisenko, D. Joyner, S. E. Borglin, R. Chakraborty, E. Shapland, M. Conrad, T. Tokunaga, J. Wan, S. Hubbard, K. Williams, M. Firestone, G. L. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, and S. Koenigsberg. High Density 16S rRNA Microarray Analysis of Long-Term Chromium Bio-immobilization. August 2006, Vienna, Austria. 11th International Symposium on Microbial Ecology. LBNL 62502.

Ramos-Hernandez, N., R. Chakraborty, D. C. Joyner, E. X. Perez, A. Massol-Dêya, and T. C. Hazen. Chemotactic and Growth Responses to Explosives of *Desulfovibrio vulgaris* H. and Sulfate-Reducing Bacteria Isolated from Tropical Marine Sediments. August 2006, Berkeley,

CA. LBNL Summer Student Presentations Hazen, T. C. Invited. Bioremediation technologies for petroleum. August 2006, Beijing, China. Department of Environmental Science & Engineering, Tsinghua University.

Long*, P. E., D. R. Newcomer, C. T. Resch, K. Cantrell, B. Faybushenko, T. C. Hazen, E. Brodie, D. Joyner, S. Borglin, J. Hanlon, M. Conrad, T. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, A. Willett, and S. Koenigsberg. Evaluation of the Effectiveness of Cr(VI) Biostimulation in Groundwater at Hanford 100H Site. May 2006, Baltimore, MD. Spring meeting of American Geophysical Union.

Faybushenko*, B., T. C. Hazen, E. Brodie, D. Joyner, S. Borglin, J. Hanlon, M. Conrad, T. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, C. T. Resch, A. Willett, and S. Koenigsberg. Tracer Tests and Field Monitoring of In situ Cr(VI) Bioreduction at the Hanford 100H Site. May 2006, Baltimore, MD. Spring meeting of American Geophysical Union.

Mukhopadhyay*, A., Z. He, E. Alm, A. Arkin, E. Baidoo, S. Borglin, W. Chen, T. C. Hazen, Q. He, H-Y. Holman, K. Huang, D. Joyner, M. Keller, P. Oeller, A. Redding, J. Sun, J. Wall, J. Wei, H-C. Yen, J. Zhou, and J. Keasling. Salt Stress in Desulfovibrio vulgaris Hildenborough: An Integrated Genomics Approach. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Redding*, A., A. Mukhopadhyay, D. Joyner, T. C. Hazen, and J. Keasling. Quantitative Proteomic Analysis of Nitrate Stress in Desulfovibrio vulgaris. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Alm*, E. J., S. E. Borglin, S. C. Chhabra, S. P. Gaucher, M. Hadi, T. C. Hazen, Q. He, H-Y. Holman, K. H. Huang, R. Huang, Z. He, D. C. Joyner, J. D. Keasling, M. Keller, K. Keller, A. Mukhopadhyay, A. Redding, A. Singh, D. D. Stahl, S. Stolyar, Z. Yang, J. Wall, G. Zane, J. Zhou, and A. P. Arkin. Comparative Analysis of Bacterial Gene Expression in Response to Environmental Stress. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Chakraborty*, R., E. L. Brodie, R. Phan, D. Joyner, Y. Piceno, G. L. Andersen, M. S. Humphrys, T. H. Hazen, P. Sobecky, and T. C. Hazen. Diversity of Sulfate-Reducing Bacteria Isolated from the Katrina Floodwaters in New Orleans. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Hemme*, C. L., K. Bender, H. C. Yen, Z. Yang, D. Joyner, J. Jacobsen, Z. He, K. Huang, E. Alm, T. C. Hazen, A. Arkin, J. Zhou, and J. D. Wall. Characterization of a Desulfovibrio vulgaris Hildenborough Mutant Strain Lacking the Ferric Uptake Regulator (fur) Gene. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

He*, Q., W. Chen, Z. He, Z. Yang, E. J. Alm, K. H. Huang, H.-C. Yen, D. C. Joyner, M. Keller, A. P. Arkin, T. C. Hazen, J. D. Wall, and J. Zhou. Nitrate stress response in Desulfovibrio vulgaris Hildenborough: Whole-Genome Transcriptomics and proteomics analyses. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Chakraborty*, R., D. Joyner, E. Wozei, H. -Y. Holman, S. P. Lam, and T. C Hazen.
Desulfovibrio strain PCS, a novel metal reducing pleomorphic sulfate reducing bacterium. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Hazen*, T. C., B. Faybushenko, E. Brodie, D. Joyner, S. E. Borglin, R. Chakraborty, M. Conrad, T. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, A. Willett, and S. Koenigsberg. Long-Term Chromium Bio-Immobilization at the Hanford 100H Site: Geochemical and Microbiological Response to Slow Release Electron Donor. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Joyner*, D., A. Mukhopadhyay, R. Chakraborty, S. E. Borglin, and T. C. Hazen. Anaerobic Phenotype Microarray Method for Knockout Mutant Comparison. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Borglin*, S. E., M. E. Conrad, E. Brodie, K. N. Woods, B. Faybushenko, D. Joyner, and T. C. Hazen. Assessment of Bioreduction of Cr(VI) Using ¹³C-PLFA analysis. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Stolyar*, S., Q. He, E. L. Alm, K. Huang, K. L. Hillesland, T. C. Hazen, S. E. Borglin, D. Joyner, A. P. Arkin, J. Zhou, and D. Stahl. Genome wide gene expression analysis of response of Desulfovibrio vulgaris to high pH. May 2006, Orlando, FL. American Society for Microbiology Annual Meeting.

Long*, P. E., T. C. Hazen, B. Faybushenko, E. Brodie, D. Joyner, S. Borglin, R. Chakraborty, M. Conrad, T. K. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, D. R. Newcomer, A. Willett, and S. Koenigsberg. Field Investigations of Lactate-Stimulated Bioreduction of Cr(VI) to Cr(III) at Hanford 100-H Area. April 2006, Richland, WA. Invited presentation to the Hanford Site Unit Manager Meeting.

Hazen*, T. C., B. Faybushenko, E. Brodie, D. Joyner, S. Borglin, R. Chakraborty, M. Conrad, T. K. Tokunaga, J. Wan, S. Hubbard, K. Williams, J. Peterson, M. Firestone, G. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, A. Willett, and S. Koenigsberg. Long-Term Chromium Bio-Immobilization at the Hanford 100H Site: Geochemical and Microbiological Response to Slow Release Electron Donor. April 2006, Warrenton, VA. DOE ERSP annual workshop.

Mukhopadhyay, A., E. J. Alm, A. P. Arkin, E. E. Baidoo, P. I. Benke, S. E. Borglin, W. Chen, S. Chhabra, M. W. Fields, S. P. Gaucher, A. Gilman, M. Hadi, T. C. Hazen, Q. He, H.-Y. Holman, K. Huang, R. Huang, Z. He, D. C. Joyner, M. Keller, K. Keller, P. Oeller, F. Pingitore, A. Redding, A. Singh, D. Stahl, S. Stolyar, J. Sun, Z. Yang, J. D. Wall, G. Zane, J. Zhou, and J. D. Keasling*. VIMSS Functional Genomics Core Research on Stress Response Pathways in Metal-Reducers. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

Gaucher, S., M. Hadi, S. Chhabra, E. Alm, G. Zane, D. C. Joyner, A. P. Arkin, T. C. Hazen, J. D. Wall, and A. Singh*. Investigation of Protein-Protein Interactions in the Metal-Reducing Bacterium Desulfovibrio vulgaris. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

Abulencia, C., E. Alm, G. Anderson, A. P. Arkin*, K. Bender, S. Borglin, E. Brodie, R. Chakraborty, S. Chhabra, S. van Dien, I. Dubchak, M. Fields, S. Gaucher, J. Geller, M. Hadi, T.

C. Hazen, Q. He, Z. He, H.-Y. Holman, K. Huang, R. Huang, J. Jacobsen, D. Joyner, J. Keasling, K. Keller, M. Keller, A. Mukhopadhyay, R. Phan, M. Price, J. A. Ringbauer, Jr., A. Singh, D. Stahl, S. Stolyar, J. Sun, D. Thompson, C. Walker, J. Wall, J. Wei, D. Wolf, D. Wyborski, H.-C. Yen, G. Zane, J. Zhou, and B. Zuniga. The Virtual Institute of Microbial Stress and Survival (VIMSS): Deduction of Stress Response Pathways in Metal/Radionuclide Reducing Microbes. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

Hazen*, T. C., C. Abulencia, G. L. Anderson, S. E. Borglin, E. Brodie, S. van Dien, M. Fields, J. Geller, H.-Y. Holman, R. Huang, R. Phan, E. Wozei, J. Jacobsen, D. Joyner, R. Chakraborty, M. Keller, A. Mukhopadhyay, D. Stahl, S. Stolyar, J. D. Wall, D. Wyborski, H.-C. Yen, G. Zane, J. Zhou, E. Hendrickson, T. Lie, J. Leigh, and C. Walker. VIMSS Applied Environmental Microbiology Core Research on Stress Response Pathways in Metal-Reducers. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

Alm*, E. J., E. E. Baidoo, P. I. Benke, S. E. Borglin, W. Chen, S. Chhabra, M. W. Fields, S. P. Gaucher, A. Gilman, M. Hadi, T. C. Hazen, Q. He, H.-Y. Holman, K. Huang, R. Huang, Z. He, D. C. Joyner, J. D. Keasling, M. Keller, K. Keller, A. Mukhopadhyay, P. Oeller, F. Pingitore, A. Redding, A. Singh, D. Stahl, S. Stolyar, J. Sun, Z. Yang, J. D. Wall, G. Zane, J. Zhou, and A. P. Arkin. Comparative Analysis of Bacterial Gene Expression in Response to Environmental Stress. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

He*, Q., Z. He, W. Chen, Z. Yang, E. J. Alm, K. H. Huang, H.-C. Yen, D. C. Joyner, M. Keller, J. Keasling, A. P. Arkin, T. C. Hazen, J. D. Wall, and J. Zhou. Nitrate stress response in *Desulfovibrio vulgaris* Hildenborough: Whole-Genome Transcriptomics and proteomics analyses. February 2006, Washington, DC. DOE Genomics:GTL Annual Workshop.

Hazen*, T. C., B. Faybushenko, E. Brodie, D. Joyner, S. E. Borglin, J. Hanlon, M. Conrad, T. Tokunaga, J. M. Wan, S. Hubbard, K. Williams, J. Peterson, M. K. Firestone, G. L. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, A. Willett, and S. Koenigsberg. Chromium Bio-Immobilization at the Hanford 100H Site: Geochemical Response to Slow Release Electron Donor. July 2005, San Francisco, CA. International Union of Microbiological Societies.

Brodie*, E., T. C. Hazen, B. Faybushenko, D. Joyner, S. Borglin, M. Conrad, G. Andersen, T. DeSantis, P. Long, D. Newcomer, A. Willett, and S. Koenigsberg. Chromium Bio-Immobilization at the Hanford 100H site: Comprehensive Molecular Analysis of Microbial Population Dynamics. July 2005, San Francisco, CA. International Union of Microbiological Societies.

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Huang*, R., D. Joyner, S. Borglin, T. C. Hazen, and N. Katz. Large Scale Biomass Production of Obligate Anaerobes for Simultaneous Transcriptomics, Proteomics, Metabolomics, and Lipidomics Analysis. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Holman*, H-Y. N., S. E. Borglin, T. C. Hazen, D. Joyner, R. Huang, N. Katz, and E. Wozei. Spectral Comparisons Reveal General Stress Response Strategies in *Desulfovibrio vulgaris*. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Borglin*, S. E., T. C. Hazen, E. Alm, D. Joyner, R. Huang, N. K. Katz. Phospholipid Fatty Acid Analysis as Phenotypic Indicators of Common Stress Response Pathways in *Desulfovibrio vulgaris* and *Shewanella oneidensis*. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Borglin*, S. E., T. C. Hazen, J. Carlson, J. D. Wall, and D. Joyner. Phenotypic Microarray Analysis of *Desulfovibrio vulgaris*. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Katz*, N., T. C. Hazen, R. Huang, D. Joyner, and S. E. Borglin. High Throughput Analysis of Stress Growth Response in *Shewanella oneidensis* MR-1. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Geller*, J., T. C. Hazen, R. Huang, D. Joyner, and S. E. Borglin. Characterization of *Desulfovibrio vulgaris* Grown in Extremophile Turbidostat Reactors. June 2005, Atlanta, GA. Annual Meeting American Society for Microbiology.

Hazen, T. C., B. Faybushenko, E. Brodie, D. Joyner, S. E. Borglin, J. Hanlon, M. Conrad, T. Tokunaga, J. M. Wan, S. Hubbard, K. Williams, J. Peterson, M. K. Firestone, G. L. Andersen, T. DeSantis, P. E. Long, D. R. Newcomer, A. Willett, and S. Koenigsberg. Field-Integrated Studies of Long-Term Sustainability of Chromium Bioreduction at the Hanford 100H Site. April 2005, Warrenton, VA. DOE NABIR Annual Investigators Meeting.

Brodie*, E., J. Larsen, T. C. Hazen, J. M. Wan, T. K. Tokunaga, D. Joyner, G. L. Andersen, T. DeSantis, P. Richardson, and M. Firestone. High-density oligonucleotide array monitoring of bacterial community dynamics during carbon stimulated uranium bioremediation. August 2004, Cancun, Mexico. International Symposium on Microbial Ecology - 10. (LBNL-54787 Abs.)

Holman, H.-Y., Z. Lin, T. C. Hazen*, and D. C. Joyner. A real-time investigation of *Desulfovibrio vulgaris* response to oxygen stress. August 2004, Cancun, Mexico. International Symposium on Microbial Ecology - 10. (LBNL-54807 Abs.)

Borglin*, S. E., T. C. Hazen, D. C. Joyner, and R. Huang. Effects of Environmental stressors on Signature Lipid Biomarkers in *Desulfovibrio vulgaris*. August 2004, Cancun, Mexico. International Symposium on Microbial Ecology - 10. (LBNL-54809 Abs.)

Hazen*, T. C., D. Joyner, S. Borglin, B. Faybushenko, J. Wan, T. Tokunaga, S. Hubbard, K. Williams, M. Conrad, C. Rios-Velazquez, J. Malave-Orengo, R. Martinez-Santiago, M. Firestone, E. Brodie, P. E. Long, E. Willett, and S. Koenigsberg. Functional Microbial Changes during Lactate and HRC-Stimulated Bioreduction of Cr(VI) in Hanford 100H Sediments. August 2004, Cancun, Mexico. International Symposium on Microbial Ecology - 10. (LBNL-54808 Abs.)

Holman*, H.-Y., Z. Lin, T. C. Hazen, and D. C. Joyner. A real-time investigation of Desulfovibrio vulgaris response to oxygen stress. May 2004, New Orleans, LA. American Society for Microbiology Annual Meeting. (LBNL-54289 Abs.) Brodie*, E., T. C. Hazen, J. M. Wan, T. K. Tokunaga, J. Larsen, K. Olson, D. C. Joyner, and M. Firestone. Biogeography of microbial communities associated with diffusion limited reduction of U(VI) and NO₃⁻ as co-contaminants in natural sediments and soils. May 2004, New Orleans, LA. American Society for Microbiology Annual Meeting. (LBNL-54232 Abs.)

Joyner*, D. C., S. E. Borglin, R. Huang, T. C. Hazen, J. D. Wall, H.-C. Yen, and S. M. Stolyar. Chemically defined medium for Desulfovibrio vulgaris stress studies and biomass production. May 2004, New Orleans, LA. American Society for Microbiology Annual Meeting. (LBNL-54288 Abs.)

Borglin*, S. E., T. C. Hazen, D. C. Joyner, and R. Huang. Effects of Environmental stressors on Signature Lipid Biomarkers in Desulfovibrio vulgaris. May 2004, New Orleans, LA. American Society for Microbiology Annual Meeting. (LBNL-54235 Abs.)

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Hazen, T. C., D. Joyner, S. Borglin, B. Faybushenko, M. Conrad, C. Rios-Velazquez, J. Malave-Orengo, R. Martinez-Santiago, M. Firestone, E. Brodie, P. E. Long, E. Willett, and S. Koenigsberg. Functional Microbial Changes during Lactate and HRC-Stimulated Bioreduction of Cr(VI) in Hanford 100H Sediments. May 2004, Monterey, CA. International Conference on Chlorinated and Recalcitrant Compound Remediation.

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DeAngelis*, K., E. Schwartz, M. Firestone, J. Wan, T. Tokunaga, D. Joyner, and T. C. Hazen. Microbial community composition and chromium transport in a clay sediment. June 2001, Berkeley, CA. UC Berkeley, 2nd Ann. Microbiology Symposium.

Wan, J., T. Tokunaga, D. Joyner, T. C. Hazen, M. Firestone, E. Schwartz, S. Sutton, and M. Newville. Mesoscale biotransformation dynamics controlling reactive transport of chromium. February 2000, Reston, VA. NABIR annual investigators meeting.